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EXAMINER

HOANG, THAI D

ART UNIT PAPER NUMBER

2667

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/502,882

Applicant(s)

BANERJEE ET AL.

Examiner

Thai D Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 08/11/2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 10-20 is/are rejected.
- 7) ☒ Claim(s) 3 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-17 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The statements "8b/10b-coded" in claims 16, 19 and "8b/10b" in claims 17, 20 are confusing because they could be understood 8 bits (or 8 bytes) and/or 10 bits (or 10 bytes). It is not clear what is meant by **8b/10b**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-8, 10-12 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upp et al., US Patent No. 5,040,170 in view of Fatehi et al., US Patent No. 6,535,313, hereafter referred to as Upp and Fatehi respectively.

Regarding claims 1, 2, 5-8, 11 and 12, Upp teaches: a gigabit multiplexing system that uses bits with multiplexing and de-multiplexing units (Col 3, lines 52- 63), with a loss of signal indicator that causes a bit to be set for immediate action and consideration (Col 11, lines 25-35). Fatehi teaches: a TDM multiplexing unit that

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converts between optical and electrical signals for a multiplexing system that operates out of a router and includes a standard of Gigabit Ethernet (Col 5, lines 43-63), and MUX 204 and DEMUR 202 units but fails to teach of a transceiver used to operate as a loss of signal detector and a code use to represent a signal loss. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a loss of signal indicator for a gigabit multiplexing system with the current standard of Gigabit Ethernet for a popular high speed communication multiplexed protocol included in a redundant communication system.

Regarding claims 4 and 10, Upp discloses that the system comprises a path terminator SPT 400 including a line synch block 404, which monitors for loss of signal, loss of frame, loss of pointer, and receives the STS-line Alarm Indication Signal AIS (on the receiving end). The detection of loss of signal, frame, or pointer causes a bit to be set in the status register of the exception report handler block 412 which results in later action. However, Upp does not disclose that the system detects loss of signal in Gigabit link. However, Fatehi discloses this feature as mentioned above with respect to claim 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a loss of signal indicator for a gigabit multiplexing system with the current standard of Gigabit Ethernet for a popular high speed communication multiplexed protocol included in a redundant communication system.

Regarding claims 16 and 19, as best understood, Upp does not explicitly disclose the data are carried in variable length packets. However, Fatehi discloses IP packets are transmitted in the system. The IP packets are variable length packets; col. 3, lines

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20-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt variable length packet into the system disclosed by Upp in order to utilize the bandwidth of the system.

Claims 15, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upp et al., US Patent No. 5,040,170, hereafter referred to as Upp.

Regarding claims 15 and 18, Upp discloses that the system comprises a plurality input/output ports, each input/output port is coupled to a link for transmitting and receiving data from the network; see figure 1 (a plurality of input ports, each input port being adapted to receive data from a respective input link, a plurality of output ports, the data received by each input port being applied to a corresponding one of said output ports). Also, Upp discloses the system that transmits and receives to/from a plurality of nodes through interfaces. The system comprises a path terminator SPT 400 to detect and insert loss signal along a link of the system for both transmitting and receiving nodes; fig. 1-3; col. 11, line 20 – col. 12, line 18 (means for detecting a loss of signal at any one of said input ports, means for generating a fault-identifying signal in response to detecting said loss of signal, and means for applying said fault-identifying signal to the output port corresponding to one to of said input ports). However, Upp discloses that the SPT 400 is a separate unit, not a part of multiplexer. See *In re Larson*, 144 USPQ 347 (CCPA 1965). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method for detecting and inserting loss signal of the SPT into a multiplexer in order to simplify and reduce the cost of the system.

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Regarding claims 17 and 20, when a loss signal is detected, the system disclosed by Upp inherently does not produce a data code of the packet.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims are rejected under 35 U.S.C. 102(b) as being unpatentable over Upp et al., US Patent No. 5,040,170 hereafter referred to as Upp.

Regarding claim 13, Upp discloses the system that transmits and receives to/from a plurality of nodes through interfaces. The system comprises a path terminator SPT 400 to detect and insert loss signal along a link of the system for both transmitting and receiving nodes; fig. 1-3; col. 11, line 20 – col. 12, line 18 (A method of communicating the existence of a fault in a link over which data was being transmitted from a transmitting node to a receiving node in a data transmission system, the method comprising transmitting a fault-identifying signal to the receiving node along at least a portion of said link in place of said data.)

Regarding claim 14, Upp discloses the system comprises a path terminator SPT 400 to detect and insert loss signal along a link of the system for both transmitting and receiving nodes; fig. 1-3; col. 11, line 20 – col. 12, line 18 (means for detecting a loss of signal at an input/output port, and means for transmitting a fault-identifying signal to the receiving node along at least a portion of said link in place of said data.

Allowable Subject Matter

Claims 3 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on 08/11/2003 have been fully considered but they are not persuasive.

Regarding independent claims 1 and 7, in the remarks page 8, lines 14-18, Applicants argue that *"there is nothing in Upp or Fatehi that shows or suggests that once a loss in signal is detected on the transmission side, a signal loss insert code is generated and multiplexed with the out going data"*. Examiner respectfully disagrees. Applicants are directed to column 11, line 20 – column 12, line 18, where the reference discloses the system implements loss signal function for both transmitting and receiving sides. For receiving side, the reference teaches:

...“Line synch block 404 also monitors for loss of signal, loss of frame, loss of pointer, and receives the STS-line Alarm Indication Signal (AIS). The detection of loss of signal, frame, or pointer causes a bit to the set in the status register of the exception report handler block 412 which results in later action, as well as causing immediate insertion of STS-path AIS forward, as required.” (col. 11, lines 29-36).

and for transmitting side the reference teaches:

“The transmit side of the SPT 400 is basically the same as the receive side except that instead of stripping and analyzing the overhead, the transmit side inserts overhead into

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a substantially SONET formatted signal" (col. 11, lines 60-63), and then ... *"The NFS also monitors for loss of signal, frame, and pointer, and for the network STS-path AIS, any of which causes specified condition bits to be set."* (col. 12, lines 5-8). Therefore, Examiner believes that the reference clearly teaches features as recited in claims 1 and 7.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 10/24/03